

Application Serial No.: 10/026,152
Amendment dated: March 19, 2004

Reply to Office action of: February 19, 2004
Attorney Docket No.: RR1732

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims:

- 21
1. (Original) A slider assembly for use in a data storage system, comprising:
 - a slider having an air bearing surface and a metalized backside;
 - a flexure secured to the slider along the slider backside, and formed of a plurality of layers;
 - a plurality of receptacles that are formed in a pattern, through at least a first layer of the flexure; and
 - a plurality of solder bumps that are deposited on the slider backside, in a generally similar pattern to the pattern of the receptacles, wherein the receptacles and the solder bumps coincide when the slider and flexure are secured together, and wherein the solder bumps flow in corresponding receptacles when heated to form a rigid mechanical connection of the slider to the flexure, while also enabling the slider to be separated from the flexure.
 2. (Original) The slider assembly of claim 1, wherein the first layer of the flexure includes a metallic bond pad made of a material that is compatible with a fluxless solder process.

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3. (Original) The slider assembly of claim 2, wherein the metallic bond pad is made of gold plated copper.

4. (Original) The slider assembly of claim 1, wherein the plurality of flexure layers further include a second layer and a third layer.

5. (Original) The slider assembly of claim 4, wherein the second layer of the flexure includes a polyimide insulator layer that provides electrical insulation between the first layer and the second layer.

6. (Original) The slider assembly of claim 5, wherein the polyimide insulator layer includes a leading edge that is recessed inward at a substantial distance relative to a leading edge tip of the flexure.

7. (Original) The slider assembly of claim 4, wherein the third layer of the flexure includes a stainless steel flexure tongue that provides resiliency to the slider assembly.

8. (Original) The slider assembly of claim 4, wherein the receptacles include depressions that are formed through the first and second flexure layers.

9. (Original) The slider assembly of claim 8, wherein the depressions are generally cylindrically shaped.

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10. (Original) The slider assembly of claim 9, wherein each depression has a diameter that is approximately 75 microns.

11. (Original) The slider assembly of claim 4, wherein a slider leading edge is recessed relative to a leading edge tip of the flexure;
wherein the metallic bond pad includes an extension; and
wherein conductive adhesive is applied to the extension and the third flexure layer to create an electrical ground path between the slider and the flexure.

12 - 18. (Canceled)

19. (New) A head stack assembly for use in a data storage system, comprising:

- an actuator body;

- an actuator arm cantilevered from the actuator body; and

- a slider assembly coupled to the actuator arm, and including:

 - a slider having an air bearing surface and a metalized backside;

 - a flexure secured to the slider along the slider backside, and formed of a plurality of layers;

 - a plurality of receptacles that are formed in a pattern, through at least a first layer of the flexure; and

 - a plurality of solder bumps that are deposited on the slider backside, in a generally similar pattern to the pattern of the receptacles, wherein the receptacles and the solder bumps

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coincide when the slider and flexure are secured together, and wherein the solder bumps flow in corresponding receptacles when heated to form a rigid mechanical connection of the slider to the flexure, while also enabling the slider to be separated from the flexure.

20. (New) The head stack assembly of claim 19, wherein the first layer of the flexure includes a metallic bond pad made of a material that is compatible with a fluxless solder process.

21. (New) The head stack assembly of claim 20, wherein the metallic bond pad is made of gold plated copper.

22. (New) The head stack assembly of claim 19, wherein the plurality of flexure layers further include a second layer and a third layer.

23. (New) The head stack assembly of claim 22, wherein the second layer of the flexure includes a polyimide insulator layer that provides electrical insulation between the first layer and the second layer.

24. (New) The head stack assembly of claim 23, wherein the polyimide insulator layer includes a leading edge that is recessed inward at a substantial distance relative to a leading edge tip of the flexure.

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25. (New) The head stack assembly of claim 22, wherein the third layer of the flexure includes a stainless steel flexure tongue that provides resiliency to the slider assembly.

26. (New) The head stack assembly of claim 22, wherein the receptacles include depressions that are formed through the first and second flexure layers.

27. (New) The head stack assembly of claim 26, wherein the depressions are generally cylindrically shaped.

28. (New) The head stack assembly of claim 27, wherein each depression has a diameter that is approximately 75 microns.

29. (New) The head stack assembly of claim 22, wherein a slider leading edge is recessed relative to a leading edge tip of the flexure;
wherein the metallic bond pad includes an extension; and
wherein conductive adhesive is applied to the extension and the third flexure layer to create an electrical ground path between the slider and the flexure.
